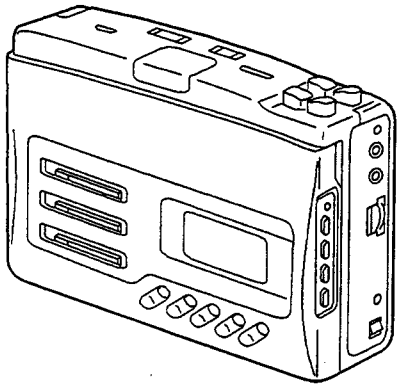
aiwa

HS-JS415

SERVICE MANUAL



STEREO RADIO CASSETTE RECORDER

• BASIC TAPE MECHANISM : α – 1 MK2

• TYPE. Y.Y1.YU.YZ

SPECIFICATIONS

Frequency range:
FM: 87.5/87.5-108.1/108MHz (200/50kHz steps)
AM: 530/531-1710/1602kHz (10/9kHz steps)

Maximum output:
10mW+10mW (EIAJ/32Ω)
15mW+15mW (EIAJ/16Ω)

Power source:
Battery DC 3V, R6P (LR-6, AA) x 2
Domestic AC power (using an optional AC adaptor)

Battery life:
Manganese batteries (R6P, AA)
Approx. 2.5 hours (EIAJ, recording)
Approx. 4 hours (EIAJ, 1mW output, playback)
Alkaline batteries (LR-6, AM-3, AA)
Approx. 5.5 hours (EIAJ, recording)
Approx. 9 hours (EIAJ, 1mW output, playback)

Dimensions:
120.5 (W) x 87.3 (H) x 36 (D) mm
(4 3/4 x 3 1/2 x 1 6/17 in.)

Weight:
Approx. 310g (0.68 lb) incl. batteries

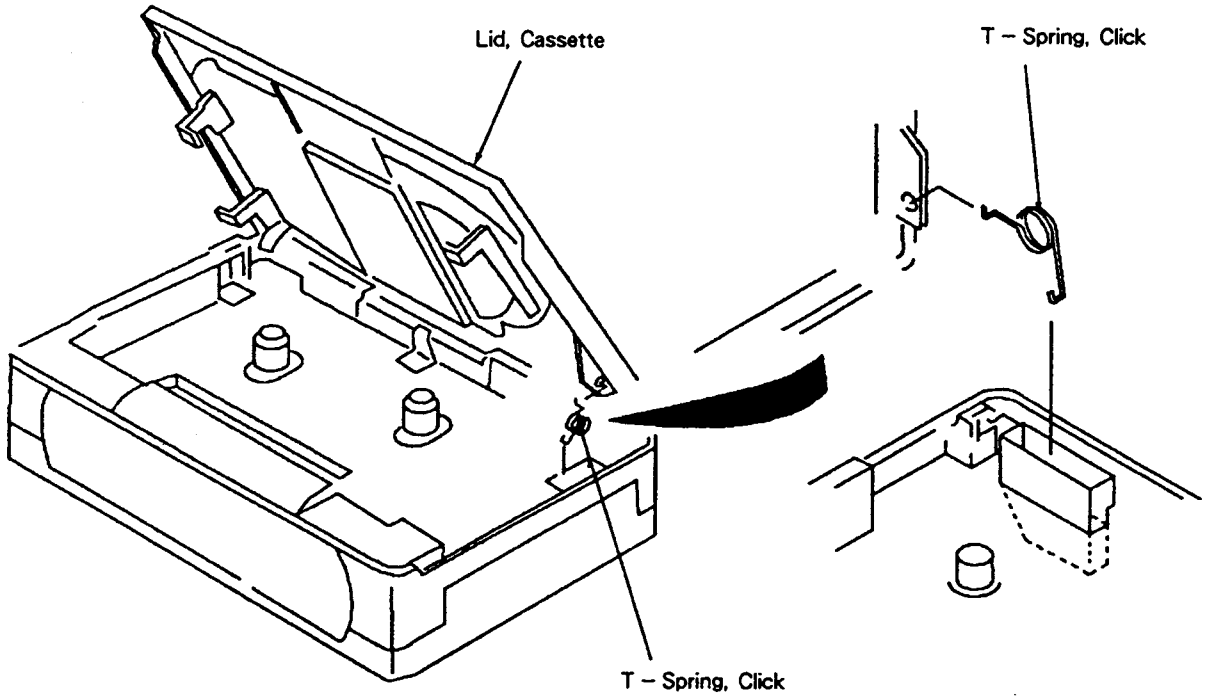
- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
- "DOLBY" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

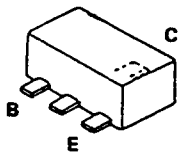
S/M Code No. 0196 DATE OF ISSUE 2/1993 – I

DISASSEMBLY INSTRUCTIONS

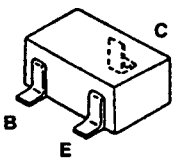
To hook the spring to the "Lid, Cassette"

1) When reinstalling, hook the "T – Spring, Click" as shown in the figure.

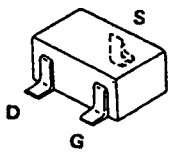




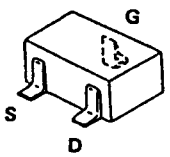
2SA1213



2SA1362
2SC2712
2SC2714
2SC4116
2SD1328
RN1311
RN1403
RN1411
RN2407



2SK211



2SK209

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip resistor part coding

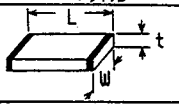
8 8 – □ □ □ – □ □ □

A
抵抗コード
Resistor code

桁表示
Figure

抵抗値
Value of resistor

チップ抵抗
Chip resistor

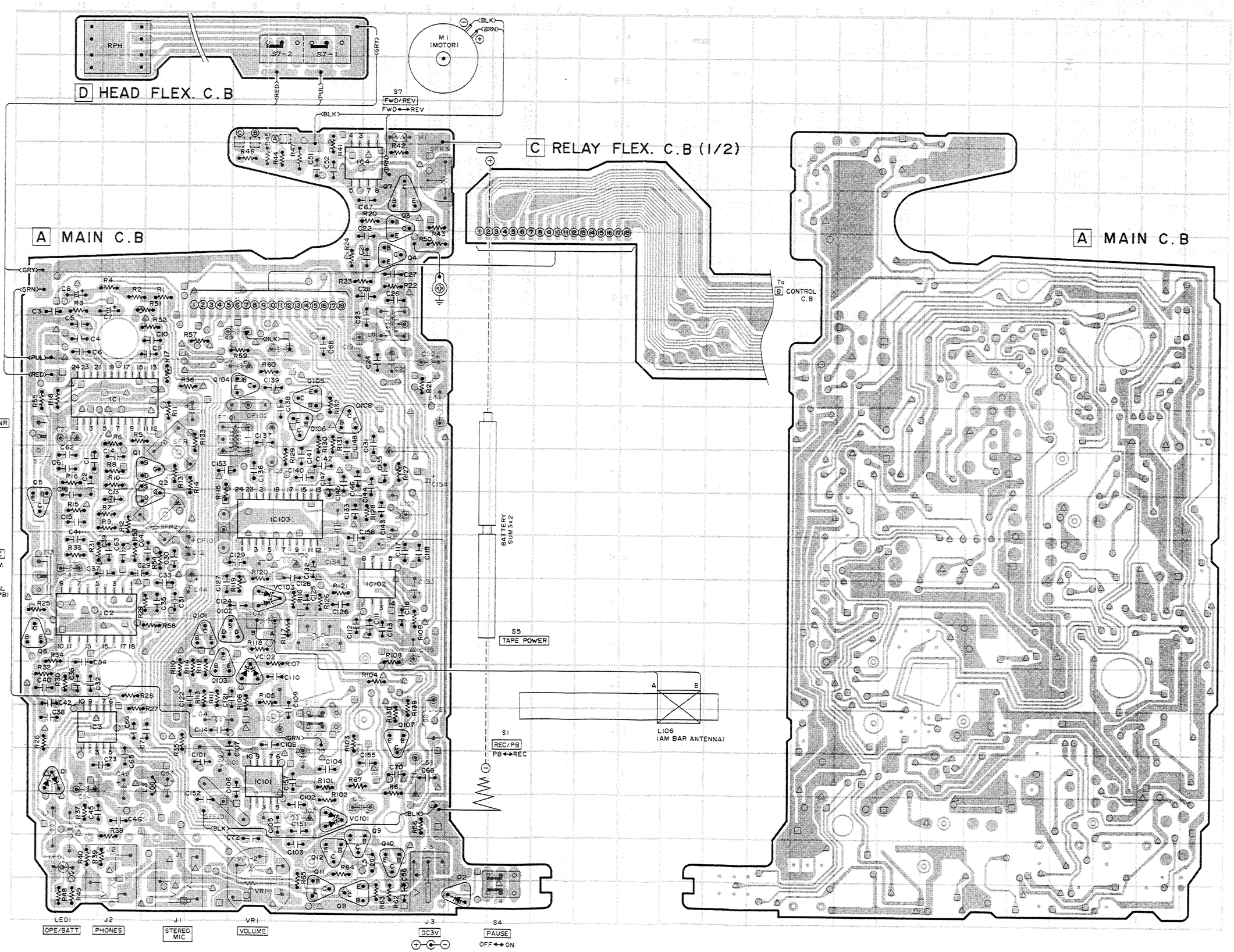
Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions／寸法(mm)				Resistor Code : A 抵抗コード : A
				Form/外形	L	W	t	
1/32W	1608	±5%	CJ		1.6	0.8	0.35	108
1/10W	2125	±5%	CJ		2	1.25	1.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.5 ~0.7	128

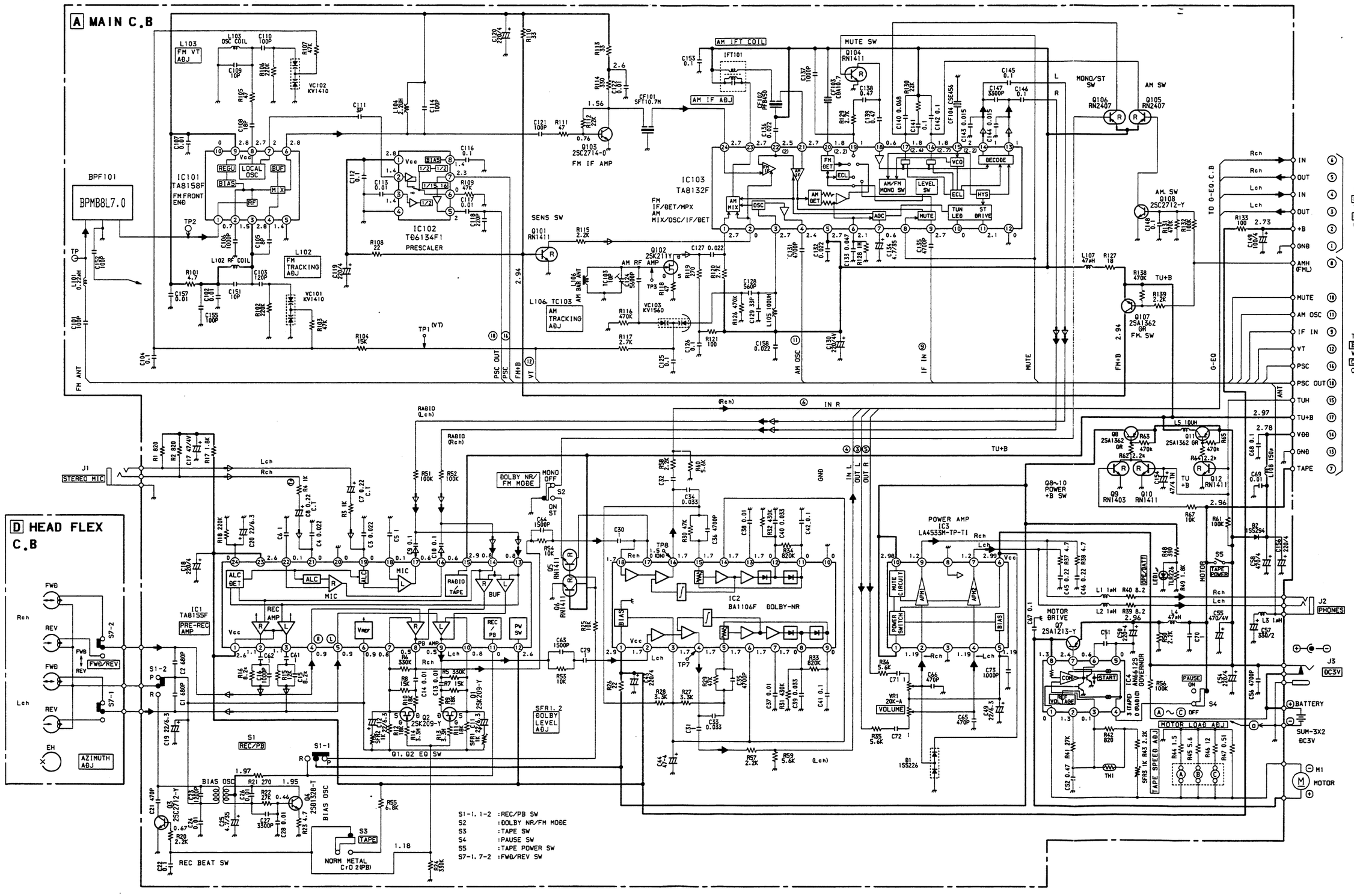
ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は最終ページの "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO.	PART NO.	DESCRIPTION
=== IC ===		
	87-001-351-089	IC, AN6612S
	87-001-934-089	IC, BA1106F
	87-001-371-089	IC, LA4533M-TP-TI
	87-001-145-089	IC, TA8126F
	87-001-971-089	IC, TA8132AF
	87-001-943-089	IC, TA8155F
	87-001-149-089	IC, TA8158F
	87-002-334-010	IC, TC9308-030
	87-001-151-089	IC, TD6134F1
=== TRANSISTOR ===		
	89-502-094-089	C-FET, 2SK209Y
	89-502-114-089	C-FET, 2SK211Y
	89-112-134-089	C-TR, 2SA1213Y
	89-113-625-089	C-TR, 2SA1362GR(TAPG)
	89-327-124-089	C-TR, 2SC2712Y
	89-327-143-089	C-TR, 2SC2714 (O)
	89-341-165-089	C-TR, 2SC4116GR
	89-413-284-089	C-TR, 2SD1328T
	87-026-418-080	C-TR, RN1311
	87-026-260-089	C-TR, RN1403
	87-026-264-089	C-TR, RN1411
	87-026-267-089	C-TR, RN2407
=== DIODE ===		
	87-020-339-089	C-DIODE, 1SS226
	87-001-142-089	C-DIODE, 1SS294
	87-001-166-089	C-DIODE, 1SS301
=== MAIN CIRCUIT BOARD SECTION ===		
BPF101	87-030-136-010	FLTR, BPMB8L 7.0
C1	87-010-176-089	C-CAP, S 680P-50 SL
C2	87-010-176-089	C-CAP, S 680P-50 SL
C3	87-010-198-089	C-CAP, S 0.022-25 B
C4	87-010-198-089	C-CAP, S 0.022-25 B
C5	87-010-805-089	C-CAP, S 1-16F
C6	87-010-805-089	C-CAP, S 1-16F
C7	87-010-832-089	C-CAP, TN 0.22
C8	87-010-805-089	C-CAP, TN 0.22
C9	87-010-196-089	C-CAP, S 0.1-25 F
C10	87-010-196-089	C-CAP, S 0.1-25 F
C11	87-010-499-049	CAP, E 22-6.3 GAS
C12	87-010-499-049	CAP, E 22-6.3 GAS
C13	87-010-197-089	C-CAP, S 0.01-25 B
C14	87-010-197-089	C-CAP, S 0.01-25 B
C15	87-010-178-089	C-CAP, S 1000P-50 B
C16	87-010-178-089	C-CAP, S 1000P-50 B
C17	87-010-501-049	E/CAP GAS 47-4
C18	87-010-503-049	CAP, E 220-4 GAS
C19	87-010-499-049	CAP, E 22-6.3 GAS
C20	87-010-499-049	CAP, E 22-6.3 GAS
C21	87-010-176-089	C-CAP, S 680P-50 SL
C22	87-010-196-089	C-CAP, S 0.1-25 F
C23	87-010-179-089	C-CAP, S 1200P-50 B
C24	87-010-197-089	C-CAP, S 0.01-25 B
C25	87-010-497-049	CAP, E 4.7-35 GAS
C26	87-010-197-089	C-CAP, S 0.01-25 B
C27	87-010-184-089	C-CAP, S 3300P-50 B
C28	87-010-197-089	C-CAP, S 0.01-25 B
C29	87-010-805-089	C-CAP, S 1-16F
C30	87-010-805-089	C-CAP, S 1-16F
C31	87-010-805-089	C-CAP, S 1-16F
C32	87-010-805-089	C-CAP, S 1-16F
C33	87-010-193-089	C-CAP, S 0.033-25 F
C34	87-010-193-089	C-CAP, S 0.033-25 F
C35	87-010-186-089	C-CAP, S 4700P-50 B
C36	87-010-186-089	C-CAP, S 4700P-50 B
C37	87-010-197-089	C-CAP, S 0.01-25 B
C38	87-010-197-089	C-CAP, S 0.01-25 B
C39	87-010-193-089	C-CAP, S 0.033-25 F
C40	87-010-193-089	C-CAP, S 0.033-25 F
C41	87-010-196-089	C-CAP, S 0.1-25 F
C42	87-010-196-089	C-CAP, S 0.1-25 F
C43	87-010-503-049	CAP, E 220-4 GAS
C44	87-010-501-049	E/CAP GAS 47-4
C45	87-012-141-089	C-CAP, S 0.22-16 F
C46	87-012-141-089	C-CAP, S 0.22-16 F
C49	87-010-499-049	CAP, E 22-6.3 GAS
C50	87-010-503-049	CAP, E 220-4 GAS
C51	87-010-805-089	C-CAP, S 1-16F
C52	87-010-450-089	C-CAP, 0.47-16 F
C54	87-010-503-049	CAP, E 220-4 GAS
C55	84-439-620-019	CAP, E 470-4
C56	87-010-186-089	C-CAP, S 4700P-50 B
C57	87-010-589-049	CAP, E 330-2 GAS
C58	87-016-045-019	CAP, E 470-4
C61	87-010-805-089	C-CAP, S 1-16F
C62	87-010-805-089	C-CAP, S 1-16F
C63	87-010-180-089	C-CAP, S 1500P-50 B
C64	87-010-180-089	C-CAP, S 1500P-50 B
C65	87-012-140-089	C-CAP, S 470P-50 CH
C66	87-012-140-089	C-CAP, S 470P-50 CH
C67	87-010-196-089	C-CAP, S 0.1-25 F
C68	87-010-196-089	C-CAP, S 0.1-25 F
C69	87-010-197-089	C-CAP, S 0.01-25 B
C70	87-010-805-089	C-CAP, S 1-16F
C71	87-010-805-089	C-CAP, S 1-16F
C72	87-010-805-089	C-CAP, S 1-16F
C73	87-010-178-089	C-CAP, S 1000P-50 B
C101	87-010-322-089	C-CAP, S 100P-50 CH
C102	87-010-197-089	C-CAP, S 0.01-25 B
C103	87-012-153-089	C-CAP, S 120P-50 CH
C104	87-010-196-089	C-CAP, S 0.1-25 F
C105	87-010-152-089	C-CAP, S 8P-50 CH
C106	87-010-178-089	C-CAP, S 1000P-50 B
C107	87-010-197-089	C-CAP, S 0.01-25 B
C108	87-010-313-089	C-CAP, S 18P-50 CH
C109	87-010-154-089	C-CAP, S 10P-50 CH
C110	87-010-322-089	C-CAP, S 100P-50 CH
C111	87-010-147-089	C-CAP, S 3P-50 CH
C112	87-010-196-089	C-CAP, S 0.1-25 F
C113	87-010-197-089	C-CAP, S 0.01-25 B
C114	87-010-322-089	C-CAP, S 100P-50 CH
C116	87-010-196-089	C-CAP, S 0.1-25 F
C117	87-010-197-089	C-CAP, S 0.01-25 B
C118	87-012-156-089	C-CAP, S 220P CH
C119	87-010-503-049	CAP, E 220-4 GAS
C120	87-010-503-049	CAP, E 220-4 GAS
C121	87-010-322-089	C-CAP, S 100P-50 CH
C122	87-010-197-089	C-CAP, S 0.01-25 B
C124	87-010-187-089	C-CAP, S 5600P-50 B
C125	87-010-196-089	C-CAP, S 0.1-25 F
C126	87-010-196-089	C-CAP, S 0.1-25 F
C127	87-010-198-089	C-CAP, S 0.022-25 B
C128	87-010-175-089	C-CAP, S 560P-50 SL
C129	87-010-339-089	C-CAP, S 33P-50 UJ
C130	87-010-503-049	CAP, E 220-4 GAS
C131	87-010-186-089	C-CAP, S 4700P-50 B
C132	87-010-198-089	C-CAP, S 0.022-25 B
C133	87-010-194-089	C-CAP, S 0.047-25 F
C134	87-010-497-049	CAP, E 4.7-35 GAS
C135	87-010-186-089	C-CAP, S 4700P-50 B
C136	87-010-198-089	C-CAP, S 0.022-25 B
C137	87-010-178-089	C-CAP, S 1000P-50 B
C138	87-010-450-089	C-CAP, 0.47-16 F
C139	87-010-450-089	C-CAP, 0.47-16 F
C140	87-010-195-089	C-CAP, S 0.068-25 F
C141	87-010-196-089	C-CAP, S 0.1-25 F
C142	87-010-196-089	C-CAP, S 0.1-25 F
C143	87-010-428-089	C-CAP, S 0.015-25 B
C144	87-010-428-089	C-CAP, S 0.015-25 B
C145	87-010-196-089	C-CAP, S 0.1-25 F
C146	87-010-196-089	C-CAP, S 0.1-25 F
C147	87-010-184-089	C-CAP, S 3300P-50 B
C148	87-010-196-089	C-CAP, S 0.1-25 F
C149	87-010-502-049	CAP ELECT GAS 100/4
C151	87-010-154-089	C-CAP, S 10P-50 CH
C152	87-010-322-089	C-CAP, S 100P-50 CH
C153	87-010-196-089	C-CAP, S 0.1-25 F
C154	87-010-501-089	C-CAP, E 47-4 GAS
C155	87-010-322-089	C-CAP, S 100P-50 CH
C156	87-010-483-019	CAP, E 220-4
C157	87-010-197-089	C-CAP, S 0.01-25 B
C158	87-010-198-089	C-CAP, S 0.022-25 B
CF101	87-008-429-019	FILT KIT 10.7M
CF102	87-008-428-019	FILT, PFB 450 JR3
CF103	+++	FILT KIT 10.7M
CF104	87-030-200-010	FILT, CSB 456 F16
IFT101	87-008-386-019	IFT MW
J1	87-009-253-019	JACK, 3.5 ST 2.5MM R(STEREO MIC)
J2	87-049-861-019	JACK, 3.5 ST 2.5MM BK(PHONES)
J3	87-009-022-019	DC JACK LONG(DC 3V)
L1	87-003-097-089	COIL, 1UH
L2	87-003-097-089	COIL, 1UH
L3	87-003-231-089	COIL, 1UH
L4	87-003-089-089	COIL, 47UH
L5	87-003-243-089	COIL, S 10UH, K
L6	87-007-189-019	COIL, OSC
L101	84-526-609-019	COIL, LOADING
L102	84-526-607-019	COIL, FM RF EX
L103	84-526-608-019	COIL, OSC FM EX
L104	87-003-098-019	COIL, 2.2UH
L105	87-003-226-089	COIL, 100UH
L107	87-003-149-089	COIL, 47UH
L108	87-003-153-089	COIL, 150UH LAL02
LED1	87-020-520-019	LED TLR226 (OPE/BATT)
R47	87-022-042-089	C-RES, M M/F 0.51-1/8
S1	87-036-082-010	SW, SLIDE 2-2-2(REC/PB)
S2	87-036-204-010	SW, SLIDE 1-1-2(FM MODE/DOLBY NR)
S3	87-036-204-010	SW, SLIDE 1-1-2(TAPE)
S4	87-036-311-019	SW, SLIDE 2-2-2(PAUSE)
S5	87-036-109-019	SW, PUSH(TAPE POWER)
SFR1	87-024-197-019	SFR, 1K
SFR2	87-024-197-019	SFR, 1K
SFR3	87-024-050-019	SFR 1K
TC103	87-011-155-019	TRIMMER, CER 10P
TH1	87-026-256-010	THMS, HT-100
VC101	87-026-359-089	C-VARICAP, KV1410
VC102	87-026-359-089	C-VARICAP, KV1410
VC103	87-026-435-089	C-VARICAP, KV1560

REF. NO.	PART NO.	DESCRIPTION
VR1	87-024-326-019	VR 20KAX2 DIA8(VOLUME)
=== CONTROL CIRCUIT BOARD SECTION ===		
C201	87-010-196-089	C-CAP, S 0.1-25 F
C202	87-010-316-089	C-CAP, S 33P-50 CH
C203	87-010-151-089	C-CAP, S 7P-50 CH
C204	87-010-196-089	C-CAP, S 0.1-25 F
C205	87-010-196-089	C-CAP, S 0.1-25 F
C206	87-010-196-089	C-CAP, S 0.1-25 F
C207	87-010-197-089	C-CAP, S 0.01-25 B
C208	87-010-197-089	C-CAP, S 0.01-25 B
C209	87-010-505-089	C-CAP, TN 1-16
C210	87-010-197-089	C-CAP, S 0.01-25 B
C211	87-010-505-089	C-CAP, TN 1-16
C212	87-010-180-089	C-CAP, S 1500P-50 B
C213	87-010-150-089	C-CAP, S 6P-50 CH
C214	87-012-156-089	C-CAP, S 220P CH
C215	87-010-805-089	C-CAP, S 1-16F
C216	87-010-197-089	C-CAP, S 0.01-25 B
C217	87-010-196-089	C-CAP, S 0.1-25 F
C220	87-010-197-089	C-CAP, S 0.01-25 B
L201	87-006-191-089	C-COIL, DD CONV
L202	87-003-241-089	C-COIL, S 4.7UH
LCD201	82-HJ5-607-019	LCD, ASSY(DISPLAY)
S201	87-036-048-080	SW, SLIDE 1-1-2(AM STEP)
S206	82-HJ5-004-019	SW, KEY(PRESET 1/2)
S207	+++	SW, KEY(PRESET 3/4)
S208	+++	SW, KEY(PRESET 5/6)
S209	+++	SW, KEY(PRESET 7/8)
S210	+++	SW, KEY(PRESET 9/10)
S213	+++	SW, KEY(POWER ON/OFF, BAND)
X201	87-030-180-019	X'TAL KF-38R5, 8A
=== RELAY FLEX. CIRCUIT BOARD SECTION ===		
PCB-C	82-HJ5-610-019	RELAY FLEX. CIRCUIT BOARD
=== HEAD FELX. CIRCUIT BOARD SECTION ===		
	87-046-338-019	HEAD RPH ASSY(W/PCB-D)
PCB-D	80-HJ6-607-019	HEAD FLEX. CIRCUIT BOARD
RPH	87-046-339-019	RP HEAD
S7	86-567-601-019	SLIDE SW(FWD/REV)
=== G-EQ CIRCUIT BOARD SECTION ===		
PCB-E	84-479-601-019	G-EQ ASSY (W/PCB-E)
=== SW CIRCUIT BOARD SECTION ===		
S203	82-HJ5-005-019	SW, KEY(UP/HOUR)
S204	+++	SW, KEY(DOWN/MIN)
S205	+++	SW, KEY(SET)
S211	+++	SW, KEY(AUTO PRESET)
S212	+++	SW, KEY(RESET)
=== MISCELLANEOUS ===		
EH	86-541-601-110	HEAD EH
L106	80-HJ5-605-019	AM BAR ANT
M1	87-045-300-019	MOTOR BDH3B

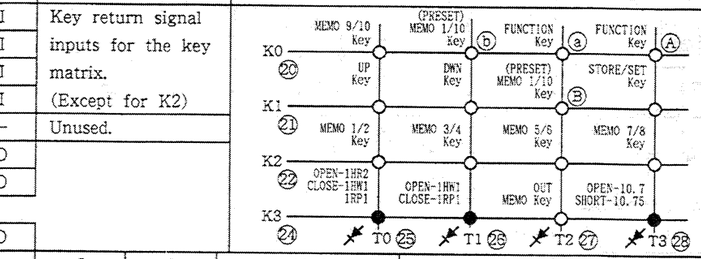

D HEAD FLEX. C.B
RPH
S7-2
S7-1
M1 (MOTOR)
<BLK>
<BRN>
<GRY>
<RED>
<PUL>
S7
FWD/REV
FWD↔REV
C RELAY FLEX. C.B (1/2)
A MAIN C.B
A MAIN C.B
To B CONTROL C.B
S2
FM MODE
MONO ↕ ST
DOLBY NR
OFF ↕ ON
S3
TAPE
NORM ↕ METAL CrO2(PB)
BATTERY SUM3x2
S5
TAPE POWER
S1
REC/PB
PB↔REC
L106
(AM BAR ANTENNA)
A
B
LED1
OPE/BATT
J2
PHONES
J1
STEREO MIC
VR1
VOLUME
J3
DC3V
S4
PAUSE
OFF↔ON


A MAIN C.B
D HEAD FLEX C.B
IC101 TA8158F FM FRONT END
IC102 T06134F1 PRESCALER
IC103 TA8132F FM IF/DET/MPX AM MIX/OSC/IF/DET
IC1 TA8155F PRE-REC AMP
IC2 BA1106F DOLBY-NR
IC3 LA4533M-TP-TI POWER AMP
IC4 AN6612S GOVERNOR
BPF101 BPMB8L7.0
Q103 2SC2714-O FM IF AMP
Q102 2SK211Y AM RF AMP
Q101 RN1411
Q104 RN1411
Q105 RN2407
Q106 RN2407
Q107 2SA1362 GR FM. SW
Q108 2SC2712-Y AM. SW
Q1, Q2 2SK209-Y
Q3 2SC2712-Y
Q4 2SD1328-T BIAS OSC
Q5 RN1411
Q6 RN1411
Q7 2SA1213-Y MOTOR DRIVE
Q8 2SA1362 GR
Q9 RN1403
Q10 RN1411
Q11 2SA1362 GR
Q12 RN1411
FM VT ADJ
FM TRACKING ADJ
AM TRACKING ADJ
AM IFT COIL
AM IF ADJ
FM IF ADJ
SENS SW
MUTE SW
MONO/ST SW
AM SW
FM ANT
AM BAR ANT
STEREO MIC
FWD/REV
AZIMUTH ADJ
REC/PB
DOLBY NR/FM MODE
TAPE
PAUSE
MOTOR LOAD ADJ
TAPE SPEED ADJ
VOLUME
POWER SW
REC BEAT SW
NORM METAL CrO2(PB)
S1-1, 1-2 :REC/PB SW
S2 :DOLBY NR/FM MODE
S3 :TAPE SW
S4 :PAUSE SW
S5 :TAPE POWER SW
S7-1, 7-2 :FWD/REV SW
TO E G-EQ C.B VIA C RELAY FLEX. C.B
TO B CONTROL C.B VIA C RELAY FLEX. C.B
J1 STEREO MIC
J2 PHONES
J3 DC3V
SUM-3X2 DC3V
M1 MOTOR
BATTERY

IC DESCRIPTION

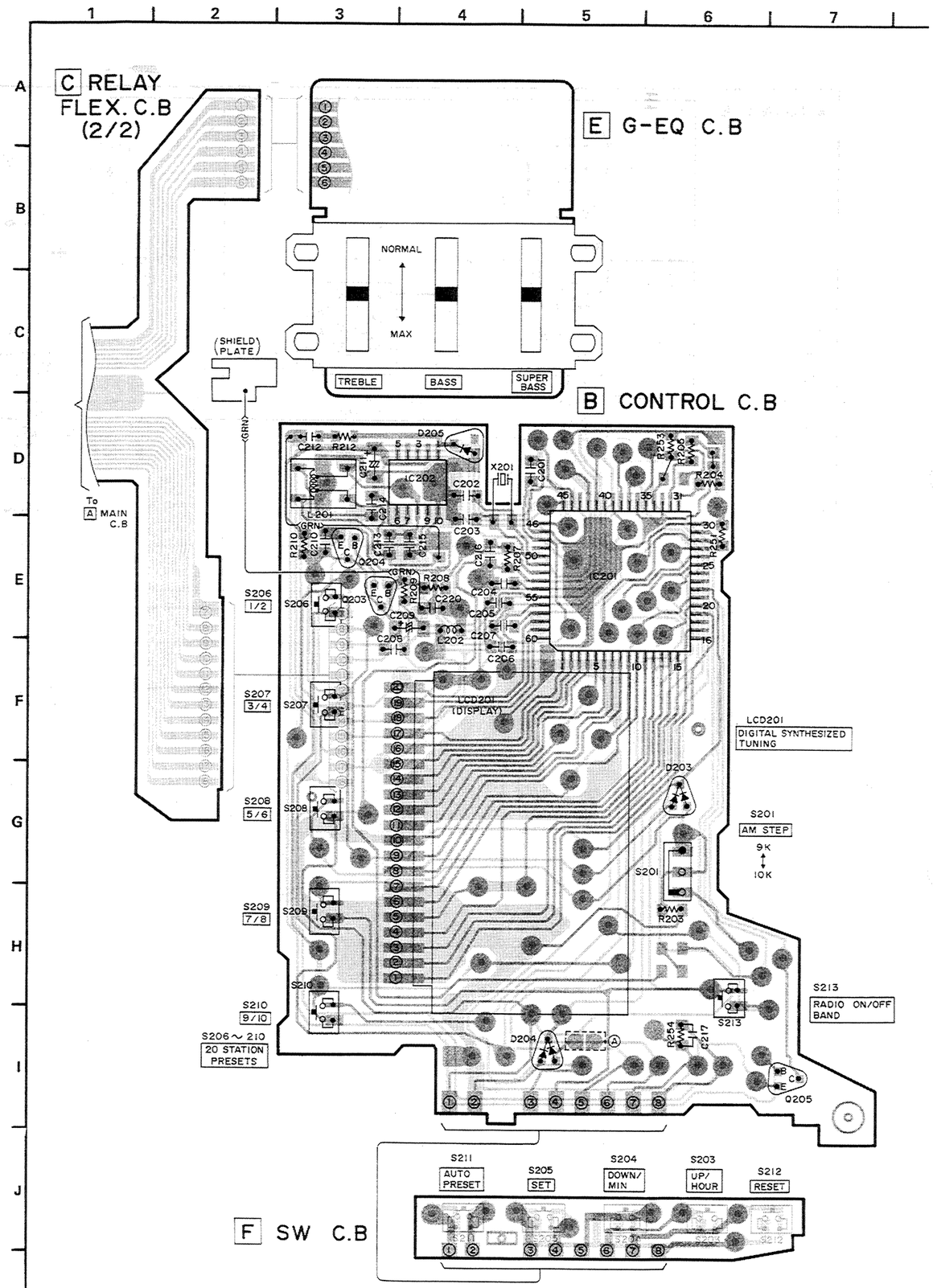
IC,TC9308 – 030

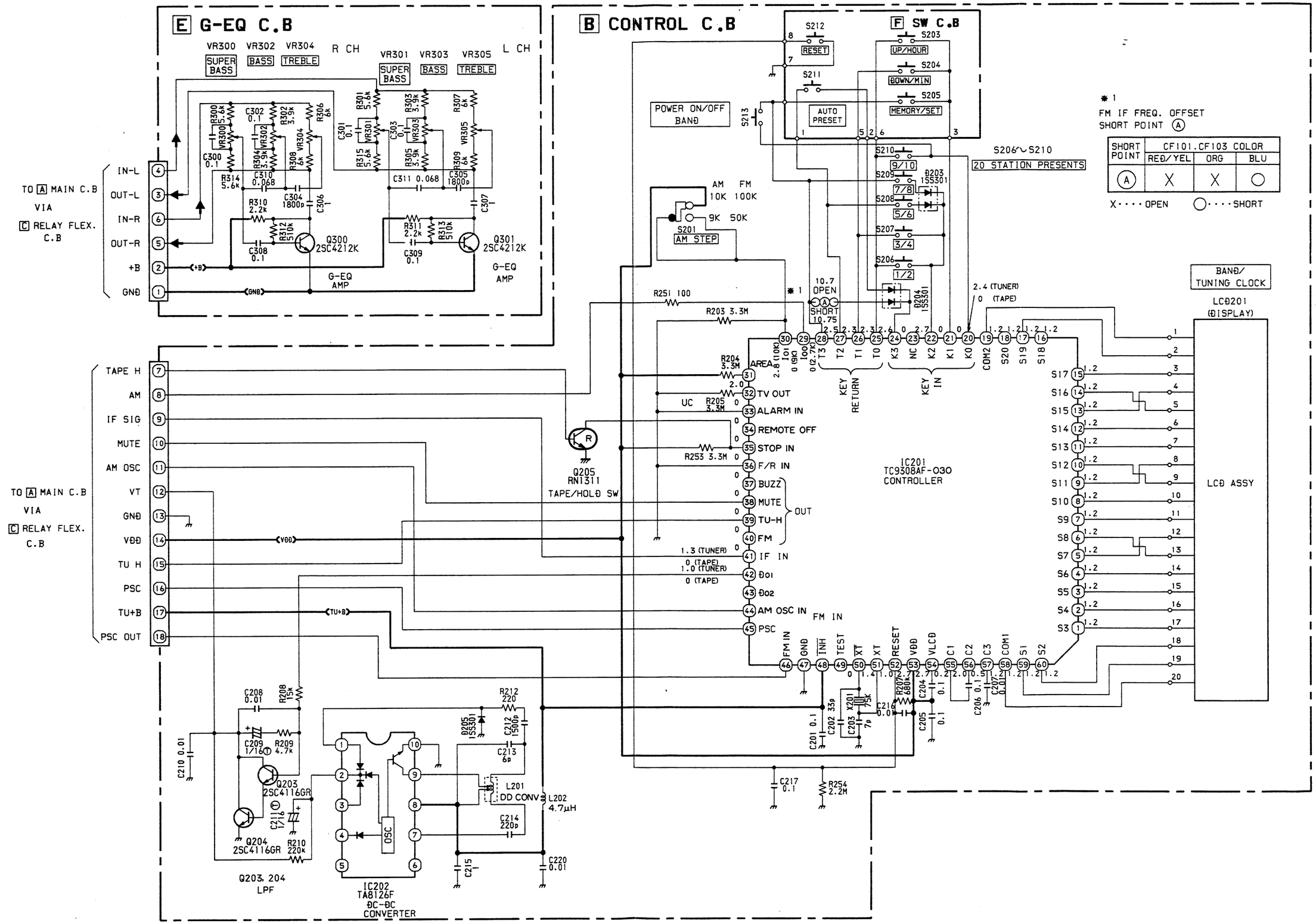
Pin No.	Pin Name	I/O	Description
58	COM1	O	Common output.
19	COM2	O	Common output.
59, 60 1~17	S1~19	O	Segment outputs.
20	K_0	I	Key return signal inputs for the key matrix. (Except for K2)
21	K_1	I	
22	K_2	I	
24	K_3	I	
23	NC	–	Unused.
25	T_0	O	
26	T_1	O	
27	T_2		
28	T_3	O	
29, 30	I_{00}, I_{01}	I	Band switching input pins.
31	AREA	I	Inputs to switch the tuner specifications.
32	TV OUT	I	
33	ALARM IN	I	Alarm input. While this input is "H", a buzzer sound is output. The input is inhibit in the tuner mode.
34	REMOTE OFF	I	"H" input causes only the PRESET function to turn off. "L" input causes only the PRESET function to turn on.
35	STOP IN	I	Clock display at "H", TAPE is displayed at "L". The frequency is displayed in the radio mode.
36	F/R IN	I	Goes "HIGH" when the tape runs forward and "LOW" when it runs is reverse.
37	BUZ OUT	O	Buzzer output.
38	MUTE OUT	O	Muting output. "HIGH" level mutes a signal.
39	TU – H	O	Output "H" in the TUNER function mode.
40	FM OUT	–	Unused.
41	IF IN	I	Auto stop input. A signal is input in the MUTE ON mode.
42	D_{01}	O	Error output of phase detector. Applies a pulse to the LPF.
43	D_{02}	–	Unused.
44	AM OSC IN	I	AM OSC input.
45	PSC	O	PSC output.
46	FM IN	I	Receives the prescaler output.
47	GND	–	Ground pin.
48	$\overline{INH}$	I	TUNER "H" is input to activate the PLL. TAPE "L" is input to stop the PLL.
49	TEST	–	Unused.
50, 51	$\overline{XT}$, XT	I	A crystal oscillator is connected to these pins.
52	RESET	I	Reset input. Reset at "L".
53	VDD	–	Connected to a power supply.
54	VLCD	–	LCD boosting power supply.
55~57	C1~C3	–	Capacitors are connected to these pins for an LCD boosting power supply.
18	S20	–	Unused.

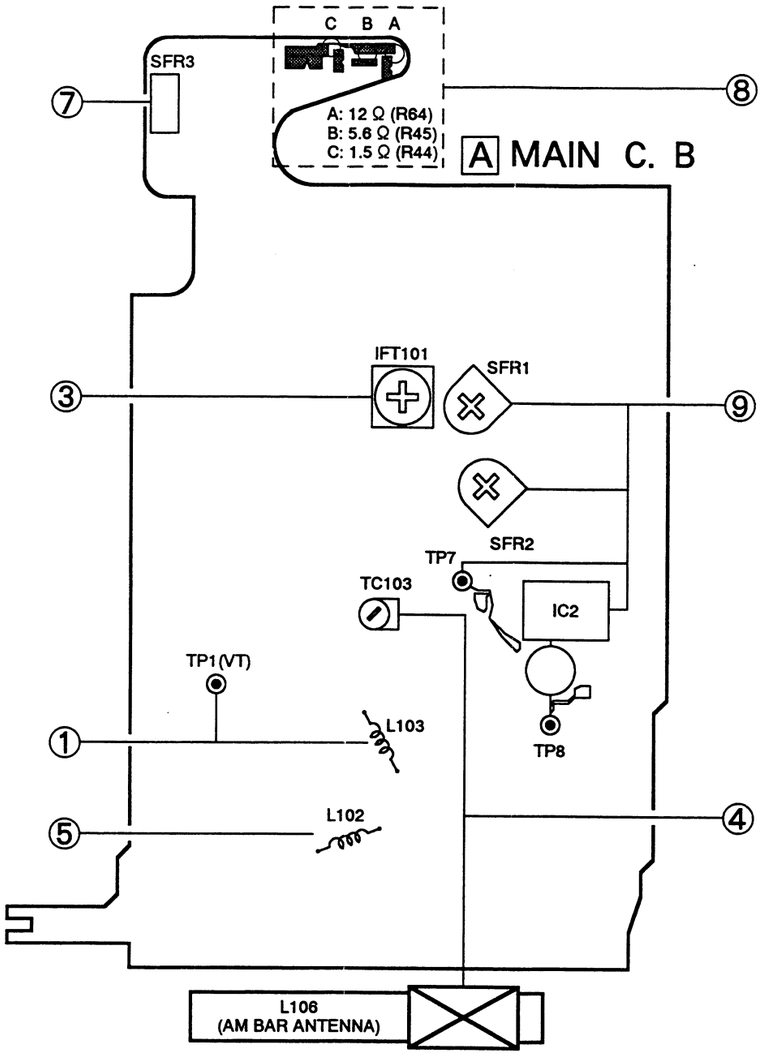


I_{00}	I_{01}	Mode	
H	H	10kHz	AM
H	L	9kHz	
L	H	FM1	
L	L	FM2	

WIRING – 2




E G-EQ C.B
VR300 VR302 VR304 R CH
SUPER BASS
BASS
TREBLE
VR301 VR303 VR305 L CH
SUPER BASS
BASS
TREBLE
TO A MAIN C.B VIA C RELAY FLEX. C.B
IN-L
OUT-L
IN-R
OUT-R
+B
GND
Q300 2SC4212K
Q301 2SC4212K
G-EQ AMP
G-EQ AMP
B CONTROL C.B
F SW C.B
S212 RESET
S211 AUTO PRESET
S213 POWER ON/OFF BAND
S203 UP/HOUR
S204 DOWN/MIN
S205 MEMORY/SET
S210 9/10
S209 7/8
S208 5/6
S207 3/4
S206 1/2
S206~S210 20 STATION PRESETS
D203 1SS301
D204 1SS301
AM FM
10K 100K
9K 50K
S201 AM STEP
*1
FM IF FREQ. OFFSET
SHORT POINT A
SHORT POINT
CF101.CF103 COLOR
RED/YEL
ORG
BLU
X····OPEN
○····SHORT
BAND/ TUNING CLOCK
LCD201 (DISPLAY)
LCD ASSY
R251 100
R203 3.3M
10.7 OPEN
SHORT 10.75
2.4 (TUNER)
0 (TAPE)
R204 3.3M AREA
2.0 TV OUT
UC R205 3.3M ALARM IN
REMOTE OFF
STOP IN
R253 3.3M F/R IN
BUZZ
MUTE
TU-H
FM
OUT
1.3 (TUNER)
0 (TAPE) IF IN
1.0 (TUNER)
0 (TAPE) D01
D02
AM OSC IN
PSC
FM IN
KEY RETURN
KEY IN
T3 T2 T1 T0 K3 NC K2 K1 K0 COM2 S20 S19 S18
S17 S16 S15 S14 S13 S12 S11 S10 S9 S8 S7 S6 S5 S4 S3
Q205 RN1311 TAPE/HOLD SW
IC201 TC9308AF-030 CONTROLLER
FM IN GND INH TEST XT XT RESET VDD VLCD C1 C2 C3 COM1 S1 S2
TAPE H
AM
IF SIG
MUTE
AM OSC
VT
GND
VDD
TU H
PSC
TU+B
PSC OUT
TO A MAIN C.B VIA C RELAY FLEX. C.B
Q203 2SC4116GR
Q204 2SC4116GR
Q203, 204 LPF
IC202 TA8126F DC-DC CONVERTER
L201 DD CONV
L202 4.7μH
OSC
X201 75k
C201 0.1
C202 33p
C203 7p
C204 0.1
C205 0.1
C206 0.1
C207 0.01
C208 0.01
C209 1/16
C210 0.01
C211 1/16
C212 1500p
C213 6p
C214 220p
C215 1
C216 0.01
C217 0.1
C220 0.01
R207 680k
R208 15k
R209 4.7k
R210 220k
R212 220
R254 2.2M
D205 1SS301



<RADIO SECTION>

1. AM IF Adjustment

Settings : • Test point : TP1 (VT)
• Adjustment location : L103

Method : Turn to FM 87.5MHz and adjust L103 so that the voltage at TP1 is 1.0 ± 0.1V.
After adjustment is completed, check that it is 6.0V～8.5V at TP1 with the FM 108.0MHz (Except U model) FM 108.1MHz (U model) signal.

2. AM VT Check

Settings : • Test point : TP1 (VT)

Method : Tune to AM 531KHz (Except U model) 530kHz (U model) and check the voltage at TP1 is more than 0.65V.
Next, check it is 7.0V～8.5V at TP1 with the AM 1602kHz (Except U model) AM 1710kHz (U model) signal.

3. FM IF Adjustment

IFT101 ..... 468kHz

4. AM Tracking Adjustment

L106 ..... 630kHz
TC103 ..... 1440kHz

5. FM Tracking Adjustment

L102 ..... 87.5kHz

<TAPE PLAYER SECTION>

6. Azimuth Adjustment

Settings : • Test tape : TTA – 320 (TTA – 113B, TTC – 152)
• Test point : PHONES JACK (J2)
• Adjustment location : Azimuth adjustment screw

Method : Play back the 8kHz signal of the test tape, and adjust so that the output becomes maximum at FWD or REV mode.

7. Tape Speed Adjustment

Settings : • Test tape : TTA – 100 (TTA – 111S)
• Test point : PHONES JACK (J2)
• Adjustment location : SFR3

Method : Play back the test tape, adjust for 3000Hz at FWD and ± 45Hz at REV mode.

8. Motor load Adjustment

Refer to the REF No. SI – 88 – 037 – OP of service technical information.

9. Dolby Level Adjustment

Settings : • Test tape : TTA – 200 (TTA – 161, TTC – 130)
• Test point : TP7 (L ch), TP8 (R ch)
• Adjustment location : SFR1 (L ch)
SFR2 (R ch)

Method : Connect an electrolytic capacitor (10 μF/16V) to measured equipment and TP7 (8), adjust for 100mV ± 1dB at FWD and REV mode.

PRACTICAL SERVICE FIGURE

<RADIO SECTION>

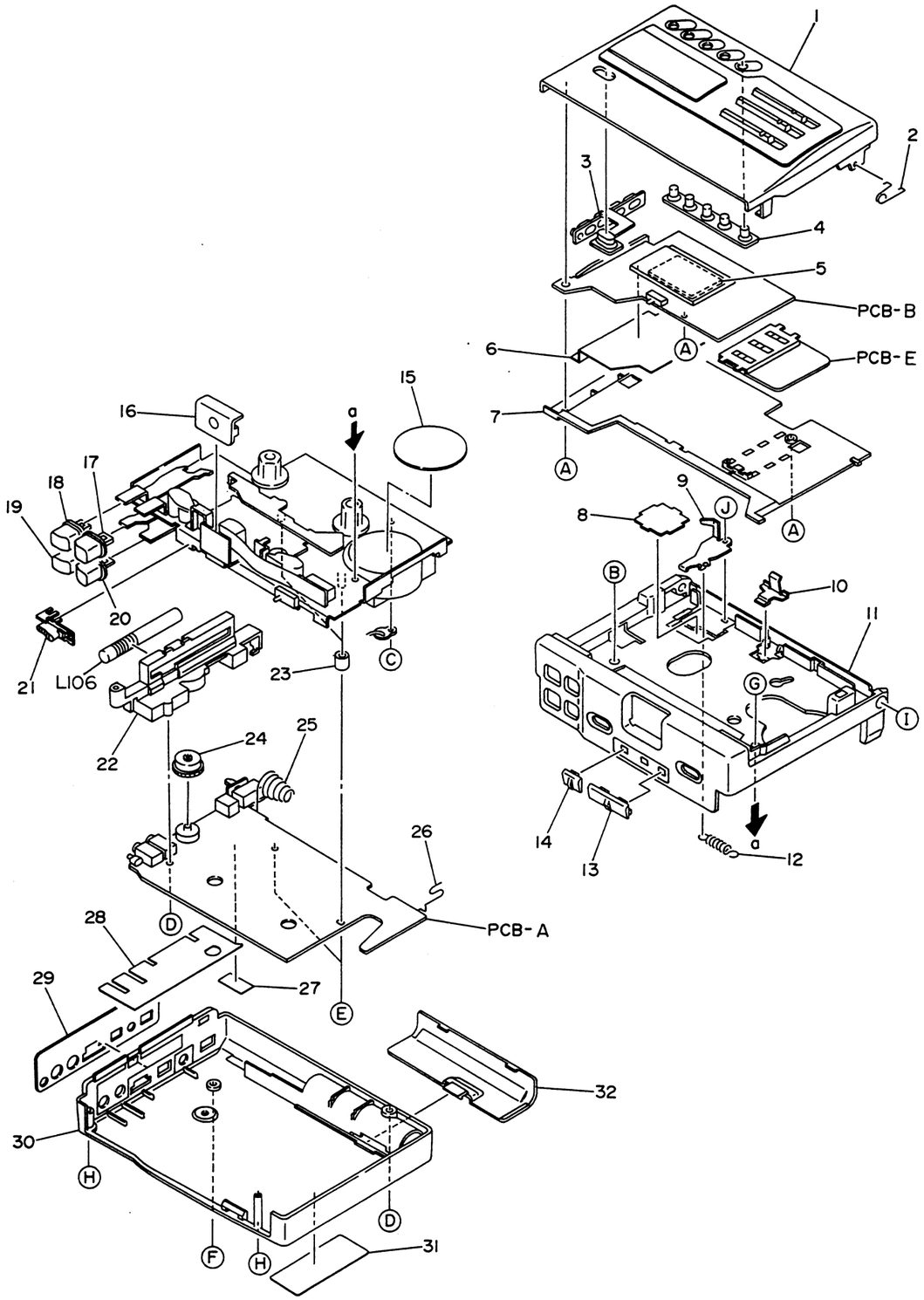
Sensitivity:	FM	Less than 19dB (88.0MHz)
(IHF THD 3%)		Less than 19dB (108.0MHz)
(S/N 10dB)	AM	Less than 60dB (630kHz)
		Less than 59dB (1000kHz)
		Less than 57dB (1440kHz)
Intermediate frequency:	FM	10.7 ± 0.1MHz
	AM	468 ± 3kHz
FM stereo separation:	FM	More than 17dB (98.0MHz)

<TAPE RECORDER SECTION>

Wow&flutter:	Less than 0.48% (FWD/REV),(RMS)
Pinch roller pressure:	180 ± 20g (FWD/REV)
Take up torque:	22～40g-cm (FWD/REV)
F. F&REW torque:	70～140g-cm
Back tension:	2～5.5g-cm (FWD/REV)
S/N ratio:	More than 43dB (PB)
	More than 32dB (REC/PB)
Distortion:	Less than 3.0% (PB)
	Less than 10% (REC/PB)
Noise level:	Less than 6.0mV (VOL MAX PB DC)
Frequency response:	63Hz～8kHz ± 4.0dB (NORMAL)

EXPLODED VIEW – 1

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
A	87-067-732-019	VT1.4-3 HL	E	87-352-531-319	VT_2+1.7-5	I	87-067-756-019	SCREW HINGE 1.4-4 HL
B	87-067-494-019	V+1.7-4	F	87-067-768-019	VT_2+1.7-7 (B)	J	87-067-963-019	SCREW HINGE 1.7-2.5 HL
C	87-358-525-319	VT_2+1.7-2.5	G	87-067-728-019	S-SCREW HINGE 1.7			
D	87-351-529-319	VT_2+1.7-4 (B)	H	87-067-973-019	S-SCREW 1.7-2.1			



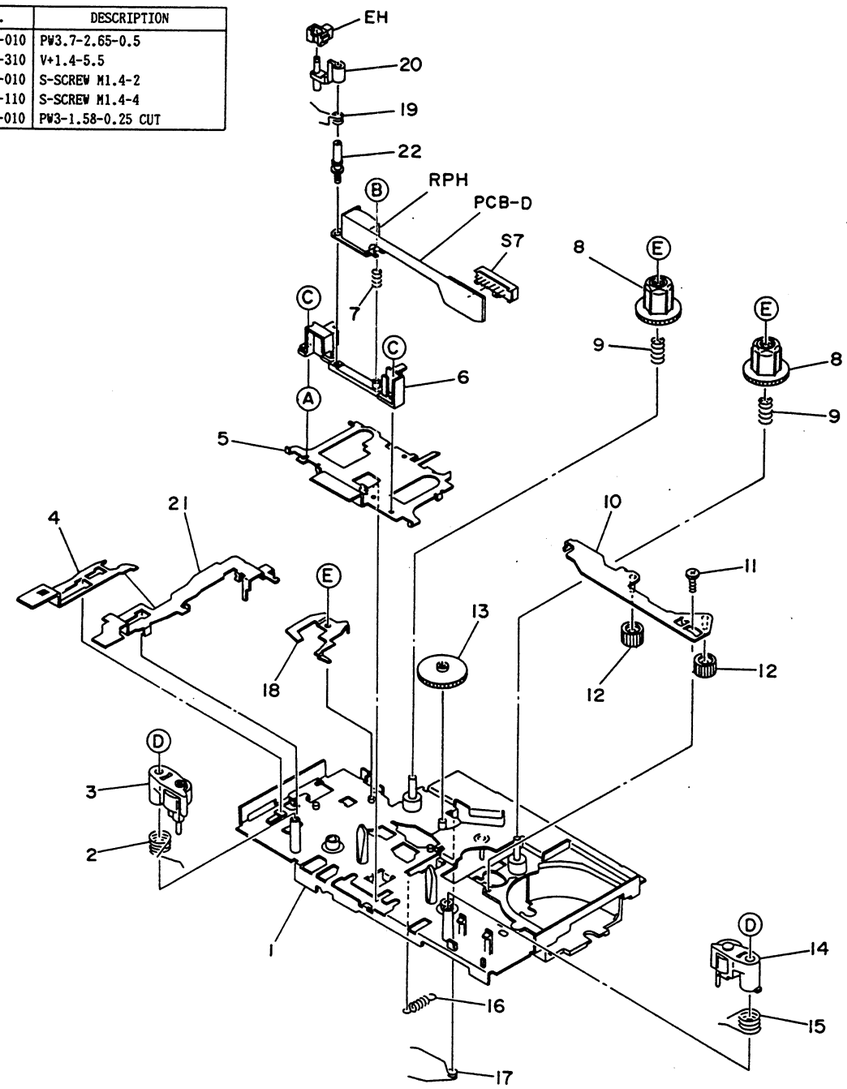
MECHANICAL PARTS LIST

DESCRIPTIONで判断できない物は最終ページの "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	1-1	09-028-067-010	LID CASSETTE ASSY	*	1
	1-2	82-HJ6-217-019	T-SPRING, CLICK		1
	1-3	82-HJ5-005-019	KEY, SET	*	1
	1-4	82-HJ5-004-019	KEY, PRESET	*	1
	1-5	82-HJ5-202-019	PLATE, LCD	*	1
	1-6	82-HJ5-609-010	SHIELD SHEET, PRE	*	1
	1-7	82-HJ5-201-019	HOLDER, CASSETTE	*	1
	1-8	82-HJ6-025-019	SHEET, CASSETTE		1
	1-9	82-HJ6-212-019	LEVER, REC PREVENTION		1
	1-10	82-HJ6-204-019	P-SPRING, LEVER		1
	1-11	82-HJ5-010-019	FRAME, CENTER	*	1
	1-12	82-HJ6-214-019	E-SPRING, LEVER		1
	1-13	82-HJ5-011-119	KNOB, SLIDE	*	1
	1-14	82-HJ6-011-019	KNOB, SLIDE FRONT		1
	1-15	84-530-023-019	LABEL, MOTOR		1
	1-16	82-HJ6-006-019	BUTTON, PLAY		1
	1-17	82-HJ6-010-019	BUTTON, REC		1
	1-18	82-HJ6-009-019	BUTTON, STOP		1
	1-19	82-HJ6-008-019	BUTTON, REW		1
	1-20	82-HJ6-007-019	BUTTON, FF		1
	1-21	82-HJ6-014-019	KNOB, SLIDE DIRECTION		1
	1-22	82-HJ5-203-019	HOLDER, ANTENNA JACK	*	1
	1-23	82-HJ6-211-019	JOINT, PWB		1
	1-24	84-506-028-119	KNOB, VOLUME		1
	1-25	82-HJ6-208-019	BATTERY CONTACT -		1
	1-26	82-HJ6-207-019	BATTERY CONTACT +		1
	1-27	81-HK9-213-019	CLOTH, 15-10		1
	1-28	82-HJ5-006-019	SHIELD SHEET, MAIN	*	1
	1-29	82-HJ5-006-019	PLATE, JACK	*	1
	1-30	82-HJ5-012-019	CABINET REAR ASSY	*	1
	1-31	82-HJ5-007-019	LABEL, SPEC(EXCEPT YJ1)	*	1
	1-31	82-HJ5-009-019	LABEL, SPEC(YJ1)	*	1
	1-32	---	LID, BATTERY		1

EXPLODED VIEW – 2

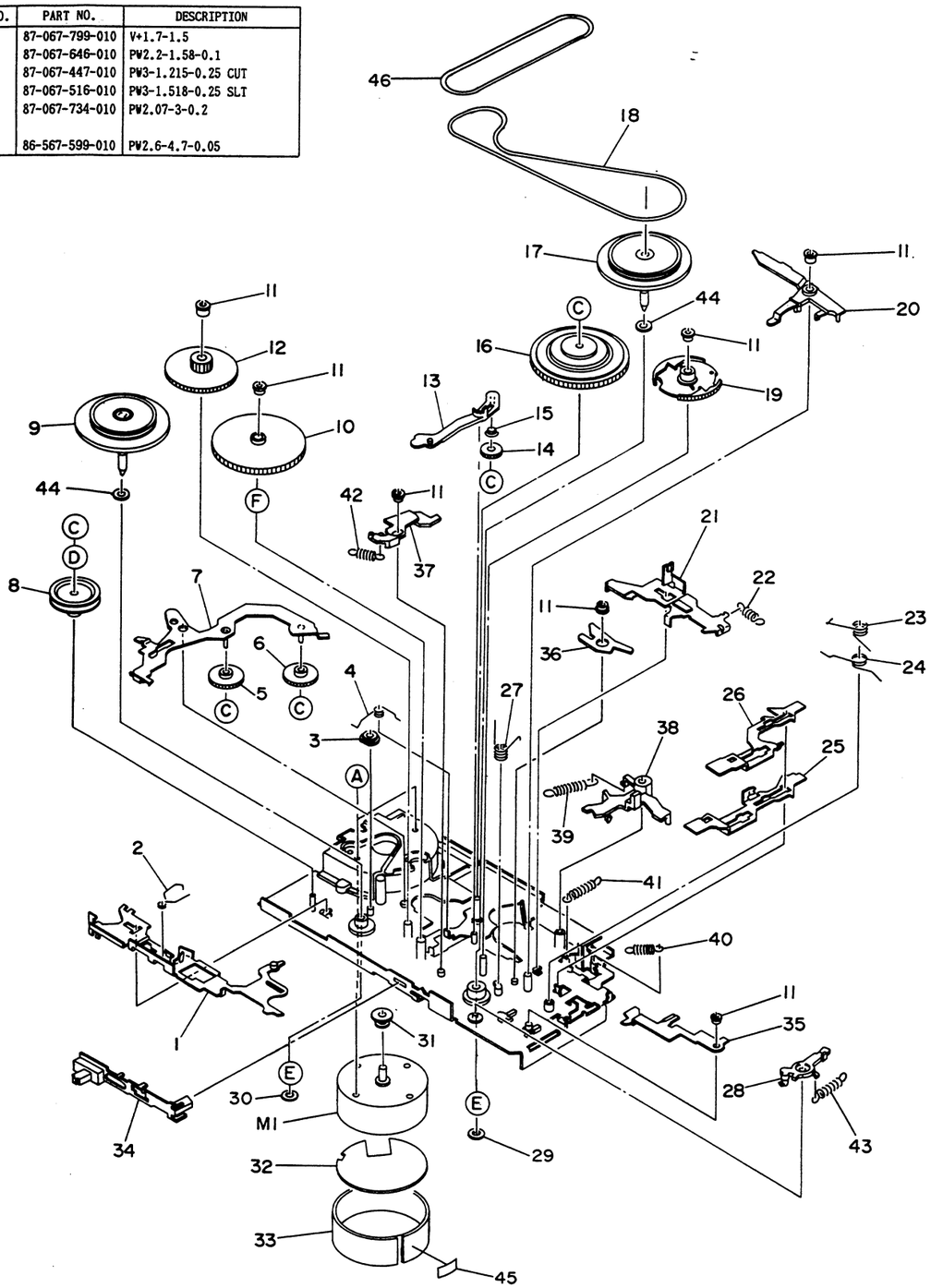
REF.NO.	PART NO.	DESCRIPTION
A	87-067-645-010	PW3.7-2.65-0.5
B	87-268-512-310	V+1.4-5.5
C	87-067-749-010	S-SCREW M1.4-2
D	87-067-517-110	S-SCREW M1.4-4
E	87-067-516-010	PW3-1.58-0.25 CUT



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	2-1	86-567-244-610	OUTSERT CHASSIS ASSY 2R		1
	2-2	86-567-231-319	T-SPRING, PINCH RP		1
	2-3	86-541-547-010	LEVER PINCH R ASSY		1
	2-4	86-567-264-110	PLATE S, STOP BUTTON		1
	2-5	86-567-261-010	CHASSIS, SLIDE S		1
	2-6	86-541-283-210	GUIDE, TAPE		1
	2-7	86-541-318-119	C-SPRING, AZIMUTH		1
	2-8	86-541-236-010	GEAR, REEL PLATFORM		2
	2-9	86-567-255-119	C-SPRING, REEL PLATFORM MK2		2
	2-10	86-541-509-119	PLATE FR ASSY B		1
	2-11	86-541-519-019	SCREW, FR		1
	2-12	86-541-520-110	GEAR, FR 2		2
	2-13	86-541-239-010	GEAR, REW		1
	2-14	86-541-546-010	LEVER PINCH F4 ASSY		1
	2-15	86-567-230-319	T-SPRING, PINCH FR		1
	2-16	86-541-331-010	E-SPRING, ACTUATING		1
	2-17	86-541-347-219	T-SPRING, FR LEVER		1
	2-18	86-541-277-210	LEVER, REC LOCK		1
	2-19	86-541-344-010	T-SPRING, EH LEVER		1
	2-20	86-541-287-310	LEVER, EH		1
	2-21	86-567-267-010	PLATE S, REC BUTTON		1
	2-22	86-541-369-010	SCREW M1.4 EH		1

EXPLODED VIEW – 3

REF.NO.	PART NO.	DESCRIPTION
A	87-067-799-010	V+1.7-1.5
B	87-067-646-010	PW2.2-1.58-0.1
C	87-067-447-010	PW3-1.215-0.25 CUT
D	87-067-516-010	PW3-1.518-0.25 SLT
E	87-067-734-010	PW2.07-3-0.2
F	86-567-599-010	PW2.6-4.7-0.05



REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
ECM	ECM
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
ｻｰｼﾞｻﾌﾟﾚｯｻ	SERGESUPPRESSOR
ｾﾗｺﾝ	CAP, CERA

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH -
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BAT, CONTACT ASSY	BATTERY CONTACT ASSY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CHAS, FR	CHASSIS, FRONT
CHAS, MECHA	CHASSIS, MECHANISM
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
KNOB, VOL REV	KNOB, VOLUME REV
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTORL
PANEL, FR	PANEL, FRONT
PULLY, LOAD MO	PULLY, LOADING MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP, SCREW BAT	SPECIAL SCREW BATTERY
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
SW	SWITCH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ｼｸｱｰﾑ	ARM, SHAFT
ｼｸｶﾞｲﾄﾞ	GUIDE, SHAFT
ｽﾄﾗｯﾌﾟ	STRAP

サービス技術ニュース	
番号	連絡内容
G－ －	
G－ －	
G－ －	

アイワ株式会社
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Tokyo Japan
Printed in Japan

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	3-1	---	PLATE PINCH SELECT ASSY		1
	3-2	86-541-320-710	T-SPRING, PLAY LEVER		1
	3-3	86-567-234-010	COLLAR, LEVER		1
	3-4	86-541-334-210	T-SPRING, AUTO LEVER		1
	3-5	86-541-477-210	GEAR, PLAY M		1
	3-6	86-541-242-310	GEAR, PLAY		1
	3-7	86-541-479-310	LEVER PLAY ASSY M		1
	3-8	86-567-260-110	PULLEY, RELAY S		1
	3-9	86-567-271-110	FLYWHEEL ASSY FS		1
	3-10	86-541-237-210	GEAR, AUTO CAM		1
	3-11	86-541-376-110	COLLAR, PCB		7
	3-12	86-541-448-010	GEAR, REDUCTION B		1
	3-13	86-541-534-110	CAM, AUTO LEVER		1
	3-14	86-541-521-010	GEAR, AUTO		1
	3-15	86-541-325-010	C-SPRING, AUTO GEAR		1
	3-16	86-567-257-119	GEAR CLUCHT ASSY MK2		1
	3-17	86-567-272-110	FLYWHEEL ASSY RS		1
	3-18	86-567-268-010	BELT, LS		1
	3-19	86-541-238-510	CAM, GEAR R		1
	3-20	86-541-284-410	LEVER, TRIGGER		1
	3-21	86-567-245-210	PLATE, REC LOCK		1
	3-22	86-541-332-119	E-SPRING, LOCK PLATE		1
	3-23	86-541-349-010	T-SPRING, FR BUTTON		1
	3-24	86-567-214-019	T-SPRING, TRIGGER		1
	3-25	86-567-265-010	PLATE S, FF BUTTON		1
	3-26	86-567-266-010	PLATE S, REW BUTTON		1
	3-27	86-541-345-310	T-SPRING, SELECT CAM		1
	3-28	86-541-286-110	LEVER, DIRECTION		1
	3-29	87-067-605-010	SHEET, SOMA 3.5-1.45-0.3 CUT		1
	3-30	87-067-783-010	SHEET, SOMA 1.37-3.5-0.3 CUT		1
	3-31	86-541-475-110	PULLEY, MOTOR M		1
	3-32	---	SHIELD, PCB B		1
	3-33	---	SHIELD, PCB		1
	3-34	82-HJ6-015-019	KNOB, SLIDE MODE		1
	3-35	86-541-522-210	LEVER, EH RETURN 2		2
	3-36	86-541-527-110	LEVER, TRIGGER LOCK		1
	3-37	86-541-288-410	LEVER, MODE CHANGE		1
	3-38	86-541-292-310	LEVER, REC EJECT		1
	3-39	86-541-297-210	E-SPRING, REC EJECT		1
	3-40	86-541-312-110	E-SPRING, REC LOCK		1
	3-41	86-541-336-010	E-SPRING, REC BLOCKING		1
	3-42	86-541-341-010	E-SPRING, MODE SELECT		1
	3-43	86-541-343-010	E-SPRING, DIRECTION		1
	3-44	87-067-726-010	SHEET, SOMA 2.1-3.5-0.25		2
	3-45	---	LABEL, NO MOTOR		1
	3-46	86-567-269-010	BELT, SS		1

■ ACCESSORIES/PACKAGE LIST

DESCRIPTIONで判断できない物は最終ページの "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q. TY
	1	82-HJ5-901-019	IB, Y	*	1
	2	82-HJ5-902-019	IB, YE	*	1
	3	87-041-065-019	MIC, CM-S30A		1
	4	87-048-230-019	HP-A270 A		1
	5	87-048-238-019	HP-23NA		1
	6	87-080-043-019	CLIP, BELT ASSY		1
	7	87-080-041-019	CLIP, HUNGER LOOP		1
	8	87-080-042-019	SCREW, CLIP BELT		1